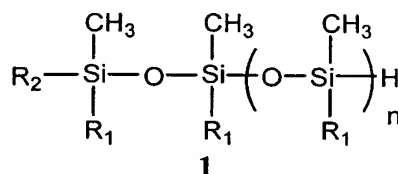


## CLAIMS:

1. A process for preparing an  $\alpha$ ,  $\omega$ -functional siloxane compound in a purity of greater than or equal to 90%, said process comprising contacting a monohydrosiloxane compound of formula 1



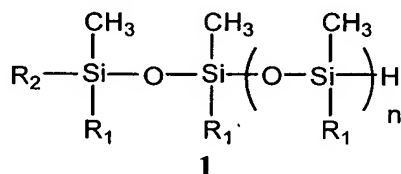
with oxygen in the presence of a platinum group catalyst, without adding water, to form the  $\alpha$ ,  $\omega$ -functional siloxane compound in a purity of greater than or equal to 90%;

wherein n is 0, 1, or 2;

$\text{R}_1$  is fluoroethyl, methyl or phenyl; and

$\text{R}_2$  is substituted alkyl, epoxyalkyl, oxetanylalkyl, substituted oxaalkyl, epoxyoxaalkyl, oxetanyloxaalkyl, alkenyl, alkylalkoxysilyl, substituted alkylaryl, and substituted arylalkyl.

2. A process for preparing an  $\alpha$ ,  $\omega$ -functional siloxane compound in a purity of greater than or equal to 90%, said process consisting essentially of contacting a monohydrosiloxane compound of formula 1



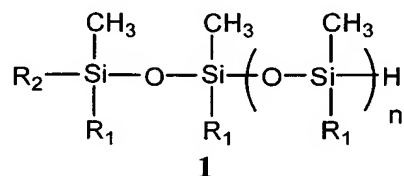
with oxygen in the presence of a platinum group catalyst, without adding water, to form the  $\alpha$ ,  $\omega$ -functional siloxane compound in a purity of greater than or equal to 90%;

wherein n is 0, 1, or 2;

$\text{R}_1$  is fluoroethyl, methyl or phenyl; and

$\text{R}_2$  is substituted alkyl, epoxyalkyl, oxetanylalkyl, substituted oxaalkyl, epoxyoxaalkyl, oxetanyloxaalkyl, alkenyl, alkylalkoxysilyl, substituted alkylaryl, and substituted arylalkyl.

3. A process for preparing an  $\alpha$ ,  $\omega$ -functional siloxane compound in a purity of greater than or equal to 90%, said process consisting of contacting a monohydrosiloxane compound of formula 1



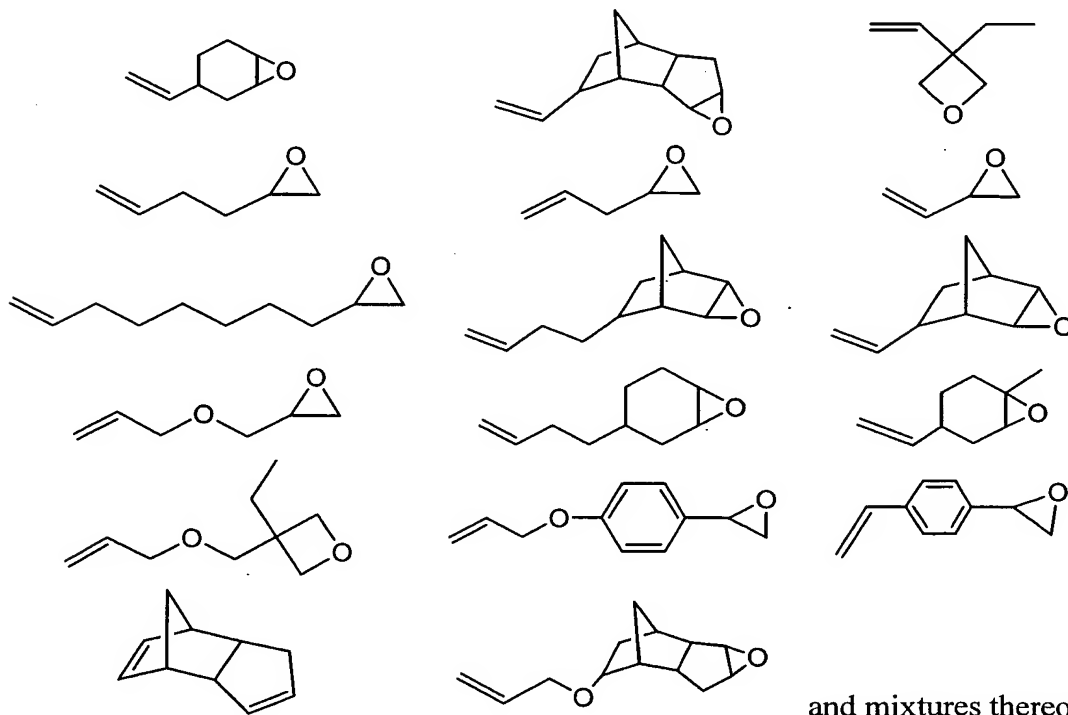
with oxygen in the presence of a platinum group catalyst, without adding water, to form the  $\alpha$ ,  $\omega$ -functional siloxane compound in a purity of greater than or equal to 90%;

wherein n is 0, 1, or 2;

R<sub>1</sub> is fluoroethyl, methyl or phenyl; and

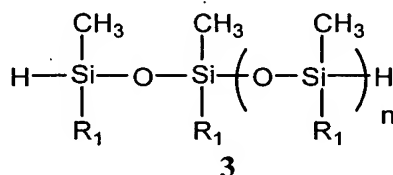
R<sub>2</sub> is substituted alkyl, epoxyalkyl, oxetanylalkyl, substituted oxaalkyl, epoxyoxaalkyl, oxetanyloxaalkyl, alkenyl, alkylalkoxysilyl, substituted alkylaryl, and substituted arylalkyl.

4. A process according to claim 1, wherein R<sub>2</sub> is a residue derived from a vinyl or allyl compound selected from



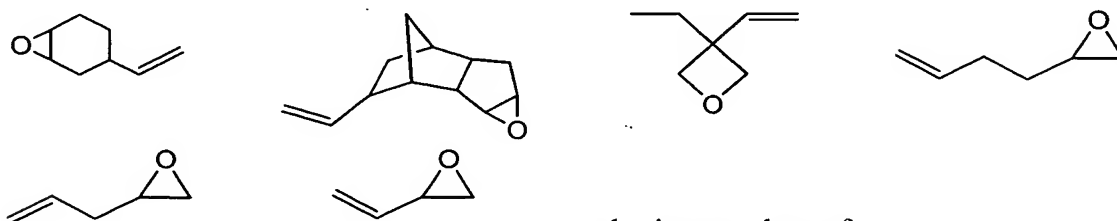
and mixtures thereof.

5. A process according to claim 1, wherein the monohydrosiloxane compound is formed by combining the platinum group catalyst, a vinyl or allyl precursor for R<sub>2</sub> and a dihydrosiloxane compound of formula 3, having a purity of greater than or equal to 90%



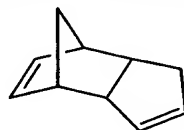
wherein R<sub>1</sub> is fluoroethyl, methyl or phenyl.

6. A process according to claim 1, wherein the dihydrosiloxane compound and the vinyl or allyl compound are present in a 1:1 ratio on a molar basis.
7. A process according to any of the above claims, wherein R<sub>2</sub> is derivable from a vinyl or allyl compound selected from the group consisting of

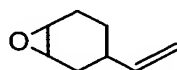


and mixtures thereof.

8. A process according to any of claims 1-4, wherein the vinyl compound is



9. A process according to any of claims 1-4, additionally comprising epoxidizing the α, ω-functional siloxane to form an α, ω-epoxysiloxane.
10. A process according to any of claims 1-4, wherein R<sub>2</sub> is derived from

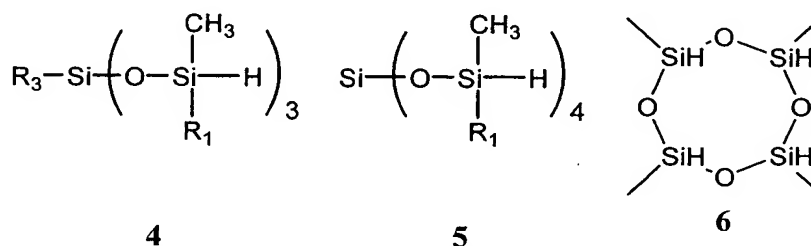


11. A process according to any of the above claims, wherein R<sup>1</sup> is methyl.
12. A process according to any of the above claims, wherein n is 0.
13. A process according to any of claims 1-4, wherein n is 1.

14. A process according to any of claims 1-4, wherein n is 2.
15. A process according to any of claims 1-4, wherein the platinum group catalyst is a rhodium compound.
16. A process according to any of claims 1-12, wherein the metal catalyst is  $(\text{Ph}_3\text{P})_3\text{RhCl}$ .

17. A process for preparing a cationically photopolymerizable siloxane oligomer, said process comprising

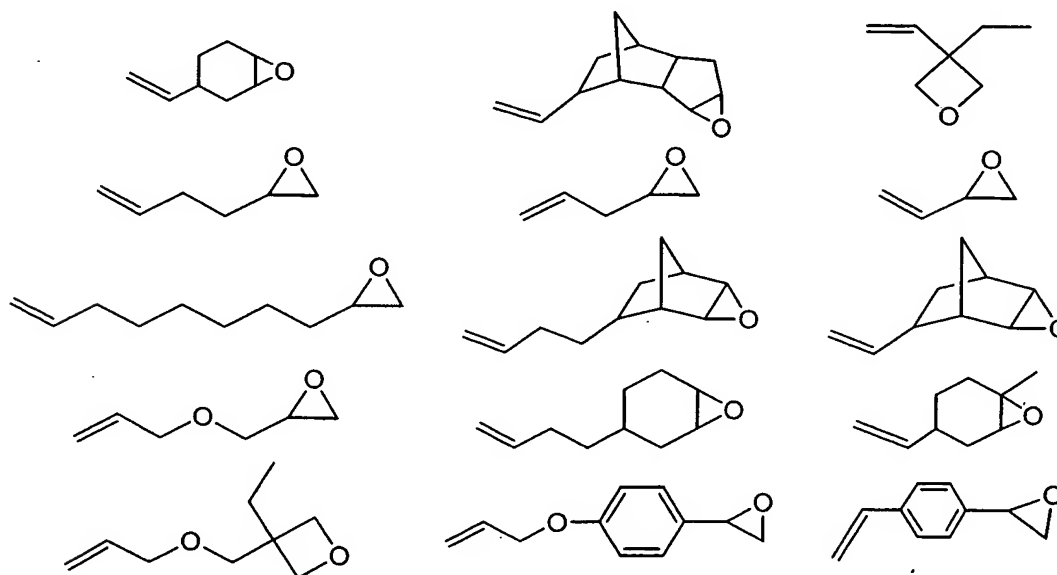
- a. combining a platinum group catalyst, a hydrosiloxane compound selected from

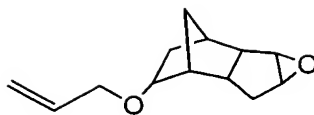
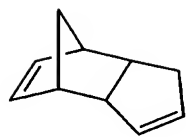


and a vinyl or allyl compound comprising cationically photopolymerizable functionality; and

- b. contacting the product with oxygen in the presence of the catalyst to form the cationically photopolymerizable multifunctional siloxane oligomer;  
wherein  $\text{R}_1$  and  $\text{R}_3$  are independently fluoroethyl, methyl or phenyl.

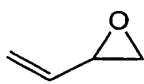
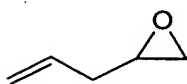
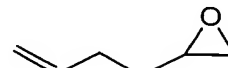
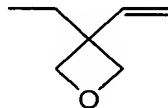
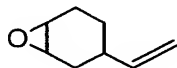
18. A process according to claim 15, wherein the vinyl or allyl compound is selected from





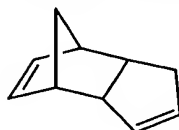
and mixtures thereof.

19. A process according to claim 15, wherein the vinyl or allyl compound is selected from the group consisting of



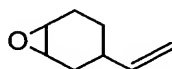
and mixtures thereof.

20. A process according to claim 15, wherein the vinyl compound is



21. A process according to claim 18, additionally comprising epoxidizing the  $\alpha$ ,  $\omega$ -functional siloxane to form an  $\alpha$ ,  $\omega$ -epoxysiloxane.

22. A process according to claim 15, wherein the vinyl or allyl compound is



23. A process according to any of claims 15-17, wherein  $R^1$  and  $R_3$  are methyl.
24. A process according to any of claims 15-17, wherein the platinum group catalyst is a rhodium compound.
25. A process according to any of claims 15-21, wherein the metal catalyst is  $(Ph_3P)_3RhCl$ .